

ABSTRACT

Apparatus and methods for electrographic image development, wherein the image development process is optimized by subjecting the developer to magnetic field maxima, thereby imparting to the developer a velocity component in a direction perpendicular to the 5 process direction, ensuring that the toner particles thus accelerated have sufficient kinetic energy to overcome the binding energy binding the toner particles to the carrier particles in the developer, and to be deposited on a receiver bearing an electrostatic latent image. The optimized image is developed to completion, where development to completion is characterized by a proportionality between the cube of the toner charge to mass ratio and a 10 quantity consisting of the magnitude of the voltage of the toning shell minus the magnitude of the voltage of the toned image.